

IN THE CLAIMS:

1. A peptide having a molecular weight of less than about 8000 daltons, and comprising a sequence of amino acids
5 (SEQ ID NO:2):

X₁ X₂ X₃ X₄ X₅ X₆ X₇

where X₁ is C, L, M, P, Q, V; X₂ is F, K, L, N, Q, R, S, T or V; X₃ is C, F, I, L, M, R, S, V or W; X₄ is any of the 20 genetically coded L-amino acids; X₅ is A, D, E, G, K, M, Q, R, 10 S, T, V or Y; X₆ is C, F, G, L, M, S, V, W or Y; and X₇ is C, G, I, K, L, M, N, R or V;

and having a detectable label covalently attached to said peptide.

- 15 2. A peptide according to claim 1, wherein from zero to all of the -C(O)NH- linkages of the peptide have been replaced by a linkage selected from the group consisting of a -CH₂OC(O)NR- linkage; a phosphonate linkage; a -CH₂S(O)₂NR- linkage; a -CH₂NR- linkage; a -C(O)NR⁶- linkage; and a -NHC(O)NH- linkage; and wherein R is hydrogen or lower alkyl and R⁶ is lower alkyl,

further wherein the N-terminus of said peptide is selected from the group consisting of a -NRR¹ group; a -NRC(O)R group; a -NRC(O)OR group; a -NRS(O)₂R group; a -NHC(O)NHR group; a 25 succinimide group; a benzyloxycarbonyl-NH- group; and a benzyloxycarbonyl-NH- group having from 1 to 3 substituents on the phenyl ring selected from the group consisting of lower alkyl, lower alkoxy, chloro, and bromo;

and wherein R and R¹ are independently selected from the 30 group consisting of hydrogen and lower alkyl,

and still further wherein the C-terminus of said peptide has the formula -C(O)R² where R² is selected from the group consisting of hydroxy, lower alkoxy, and -NR³R⁴ where R³ and R⁴ are independently selected from the group consisting of 35 hydrogen and lower alkyl and where the nitrogen atom of the -

NR³R⁴ group can optionally be the amine group of the N-terminus of the peptide so as to form a cyclic peptide, and physiologically acceptable salts thereof.

5 3. A peptide according to claim 1, wherein said detectable label is selected from the group consisting of radioisotopes, enzymes and fluorescent labels.

4. A peptide according to claim 1, wherein said label
10 is attached to said peptide using a spacer.

5. A peptide according to claim 1, wherein the peptide comprises the sequence of amino acids (SEQ ID NO:14):

C X₂ X₃ X₄ X₅ X₆ X₇

15 where X₂ is F, K, L, N, Q, R, S, T or V; X₃ is C, F, I, L, M, R, S or V; X₄ is any of the 20 genetically coded L-amino acids; X₅ is A, D, E, G, S, V or Y; X₆ is C, F, G, L, M, S, V, W or Y; and X₇ is C, G, I, K, L, M, N, R or V.

20 6. A peptide according to claim 5, wherein X₄ is A, E, G, H, K, L, M, P, Q, R, S, T, or W.

7. A peptide according to claim 6, wherein X₂ is S or T; X₃ is L or R; X₄ is R; X₅ is D, E, or G; X₆ is F, L, or W; 25 and X₇ is I, K, L, R, or V.

8. A peptide according to claim 1, wherein said peptide comprises a sequence of amino acids (SEQ ID NO:16):

X₈ C X₂ X₃ X₄ X₅ X₆ X₇

30 where X₂ is F, K, L, N, Q, R, S, T or V; X₃ is C, F, I, L, M, R, S, V or W; X₄ is any of the 20 genetically coded L-amino acids; X₅ is A, D, E, G, K, M, Q, R, S, T, V or Y; X₆ is C, F, G, L, M, S, V, W or Y; X₇ is C, G, I, K, L, M, N, R or V; and X₈ is any of the 20 genetically coded L-amino acids.

9. A peptide according to claim 8, wherein X_8 is G, S, Y or R.

10. A peptide according to claim 8, wherein said peptide comprises a sequence of amino acids (SEQ ID NO:15): G G C T L R E W L H G G F C G G.

11. A peptide according to claim 1, wherein said peptide comprises a sequence of amino acids (SEQ ID NO:3):

10 X_8 G X_1 X_2 X_3 X_4 X_5 W X_7

where X_1 is L, M, P, Q, or V; X_2 is F, R, S, or T; X_3 is F, L, V, or W; X_4 is A, K, L, M, R, S, V, or T; X_5 is A, E, G, K, M, Q, R, S, or T; X_7 is C, I, K, L, M or V; and X_8 is any of the 20 genetically coded L-amino acids.

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12. A peptide according to claim 11, wherein X_1 is P; X_2 is T; X_3 is L; X_4 is R; X_5 is E or Q; X_7 is I or L (SEQ ID NO:4).

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13. A peptide according to claim 12, wherein said peptide comprises a sequence of amino acids (SEQ ID NO:5):

X_9 X_8 G X_1 X_2 X_3 X_4 X_5 W X_7

where X_8 is A, C, D, E, K, L, Q, R, S, T, or V; and X_9 is A, C, E, G, I, L, M, P, R, Q, S, T, or V.

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14. A peptide according to claim 13, wherein X_8 is D, E, or K; and X_9 is A or I.

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15. A peptide according to claim 14, wherein said amino acid sequence is selected from the group consisting of (SEQ ID NOs 6-13, respectively): G G C A D G P T L R E W I S F C G G; G N A D G P T L R Q W L E G R R P K N; G G C A D G P T L R E W I S F C G G K; T I K G P T L R Q W L K S R E H T S; S I E G P T L R E W L T S R T P H S; L A I E G P T L R Q W L H G N G R D T; C A D G P T L R E W I S F C; and I E G P T L R Q W L A A R A.

16. A compound having a detectable label covalently attached thereto, said compound selected from the group consisting of

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C A D G P T L R E W I S F C ; (SEQ ID NO:12)
| _____ |

[Ac] - C A D G P T L R E W I S F C - [amide] ; (SEQ_ID NO:12)
10 | _____ |

15 NO:12) O = C A D G P T L R E W I S F C - NH₂; and (SEQ ID
 |
 CH₂- - - - - - - - - - S

17. A compound according to claim 16, wherein said detectable label is selected from the group consisting of radioisotopes, enzymes and floourescent labels.

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18. A compound according to claim 16, wherein said label is attached to said peptide using a spacer.